



CITY OF DURHAM | NORTH CAROLINA

**Date:** February 27, 2013  
**To:** Thomas J. Bonfield, City Manager  
**Through:** W. Bowman Ferguson, Deputy City Manager  
**From:** Donald F. Greeley, Director, Water Management  
**Subject:** Southern Reinforcing Main Phase IIB Project  
Follow-up Response from February 21, 2013 Work Session

This memo is in response to Diane Catotti's question at the February 21, 2013 Work Session for a definition of "bore and jack". Your inquiry is in reference to the Department's Agenda Memo for the Southern Reinforcing Main Phase IIB Project, which mentions the "bore and jack" crossings of a railroad on Glover Road (at Angier Ave.) and of Miami Blvd. on Angier Ave.

"Boring and jacking" is a tunneling method that allows a casing pipeline to be installed underneath a railroad or road without disrupting traffic. It is performed between two pits, one on either side of the crossing. A hydraulic ram is installed in the "entry pit" and aimed at the "receiving pit".

In front of the ram is the casing pipe to be installed with a large auger or drill bit placed inside. The casing pipe is pushed, or "jacked", through the soil while the auger "bores" through the soil just in front of the casing pipe. The soil is pushed to the back of the pipe and removed in the "entry pit".

Installation is considered complete when the pipe enters the "receiving pit". The link below shows a video of a bore and jack being performed:

<http://www.youtube.com/watch?v=u0EAN5cy1Ck>

Once the casing pipe is installed the smaller diameter water main is installed through the casing pipe.

Please let me know if you have any further questions.